

## ABSTRACT OF THE DISCLOSURE

Embodiments of the present invention are directed toward a photoluminescent article comprising at least one host material and at least one color tunable photoluminescent dye. In certain embodiments, the emission spectrum of the at least one tunable photoluminescent dye may be dependent on the supramolecular architecture of the material. The photoluminescent emission spectrum of the dye is capable of being shifted by subjecting the article to an external stimuli such as, but not limited to, a mechanical deformation, a temperature change, aging of the article, a pressure change, exposure to a chemical compound. In specific embodiments, the color tunable photoluminescent dye is an oligo(phenylene vinylene) compound, such as, but not limited to, 1,4-Bis-( $\alpha$ -cyano-4-methoxystyryl)-benzene, 1,4-bis-( $\alpha$ -cyano-4-methoxystyryl)-2,5-dimethoxybenzene, and 1,4-bis-( $\alpha$ -cyano-4-(2-ethylhexyloxystyryl)-2,5-dimethoxybenzene and 2,5-bis-( $\alpha$ -cyano-4-methoxystyryl)-thiophene. A further embodiment of the invention is method of determining a degree of mechanical deformation, a temperature change, aging of the article, a pressure change, exposure to a chemical compound on an article.